



**FIG. 72**

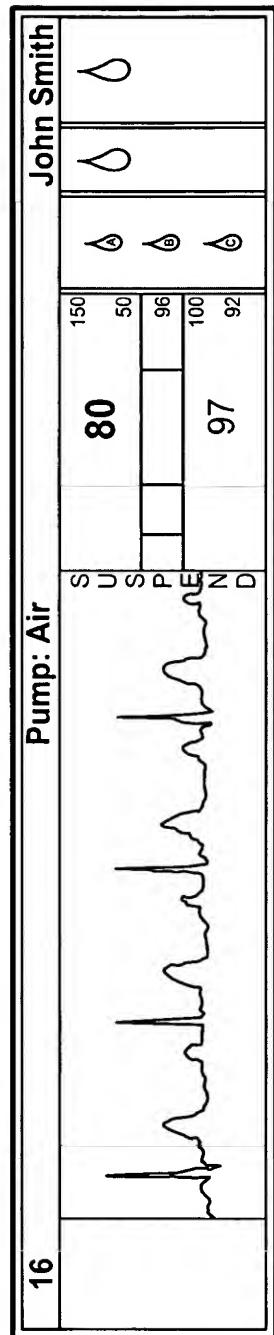


FIG. 73

John Smith

John Smith					
Pump 1	Pump 2	Pump 3	Rate mL/h	Volume Remaining mL	Volume Remaining mL
Ⓐ	22.5 Dopamine 5mcg/kg/min	249.0 Ⓑ	18.0	243.7	10.0 135.4 Heparin 1000units/hr
Ⓑ	6.0 Nitroglycerin 20mcg/min	75.0 Ⓒ	5.0 Maintenance	35.6 Time Remaining	13:54 h:min 13:54 h:min
					<input type="button" value="Close"/> <input type="button" value="Setup"/>

FIG. 74

Pump 1		Pump 2		Pump 3		Pump 4	
Rate mL/h	Volume Remaining mL	Rate mL/h	Volume Remaining mL	Rate mL/h	Volume Remaining mL	Rate mL/h	Volume Remaining mL
22.5 Ⓐ	249.0	18.0 STOP	243.7	10.0 △	135.4		
6.0 Ⓑ	75.0		Dobutamine 5mcg/kg/min		Heparin 1000units/hr		
5.0 Ⓒ	35.6			Time Remaining	Time Remaining	13:54 h:min	13:54 h:min

FIG. 75

			Near Miss				Med Error		
		Total Administrations	Total Wrong	# Wrong Drug	# Wrong Patient	# Wrong Time	# Wrong Route	# Wrong Dose	# Wrong Dose
<b>All Units</b>	<b>Total</b>	<b>750</b>	<b>198</b>	<b>41</b>	<b>25</b>	<b>77</b>	<b>6</b>	<b>20</b>	<b>29</b>
	Infusion	350	66	20	0	20	6	20	0
	Non-Infusion	400	107	21	0	57	0	0	29
<b>BCPS Demo Unit</b>	<b>Total</b>	<b>450</b>	<b>102</b>	<b>24</b>	<b>12</b>	<b>48</b>	<b>3</b>	<b>20</b>	<b>7</b>
	Infusion	200	36	11	0	10	3	12	0
	Non-Infusion	250	58	13	0	38	0	0	7
<b>BPCS Demo Unit2</b>	<b>Total</b>	<b>300</b>	<b>71</b>	<b>17</b>	<b>13</b>	<b>29</b>	<b>3</b>	<b>0</b>	<b>22</b>
	Infusion	150	21	5	0	6	2	8	0
	Non-Infusion	150	49	8	0	19	0	0	22

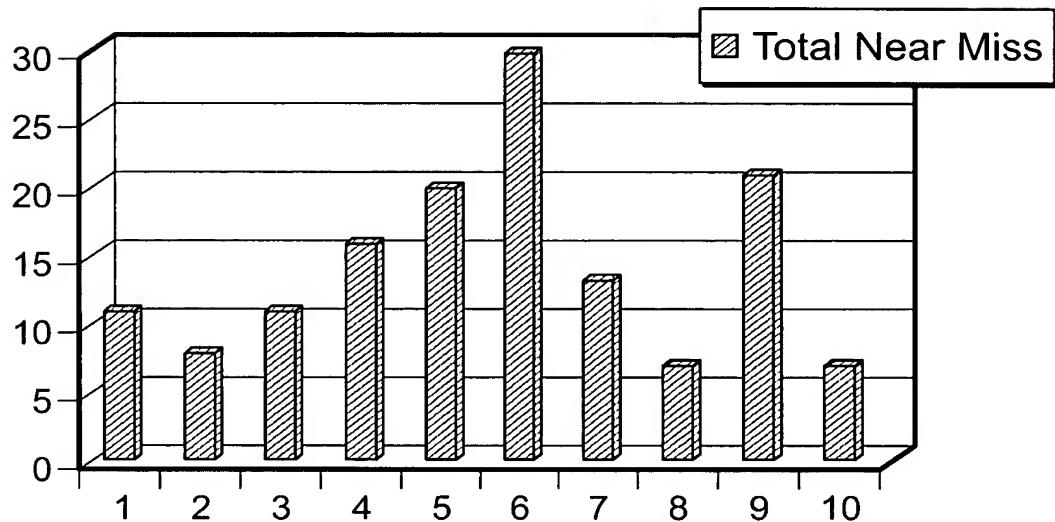
**Fig. 76**

			Near Miss				Med Error		
		Total Administrations	Total Wrong	# Wrong Drug	# Wrong Patient	# Wrong Time	# Wrong Route	# Wrong Dose	# Wrong Dose
<b>Total</b>	<b>450</b>	<b>106</b>	<b>24</b>	<b>12</b>	<b>48</b>	<b>3</b>	<b>12</b>	<b>7</b>	<b>7</b>
	Infusion	200	36	11	0	10	3	12	0
	Non-Infusion	250	58	13	0	38	0	0	7

**Fig. 77**

**Near Miss Summary by Med All Units**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**

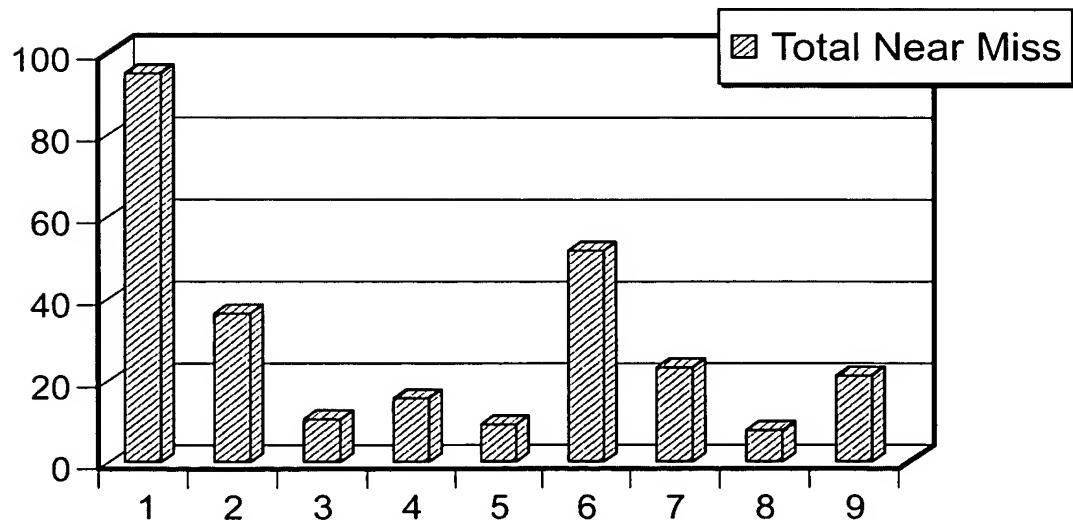
**Medication Total Near Misses**



**FIG. 78**

**Near Miss Unit Summary by Med BPCS Demo Unit**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**

**Medication Total Near Misses**



**FIG. 80**

		Near Miss						Med Error	
		Total Administrations	Total Wrong	# Wrong Drug	# Wrong Time	# Wrong Route	# Wrong Dose	# Wrong Dose	Med Error
All Units	Total	750	173	41	77	6	20	20	29
	Infusions	350	66	20	20	6	20	0	0
	1. Bel's Morphine Sulfat Inj 2 MG/ML	25	11	4	4	1	2	0	0
	2. Continuous Titration	70	8	3	2	0	3	0	0
	3. Multiple Vitamin Inj.	95	11	1	3	2	5	0	0
	4. Tapering	60	16	7	3	0	6	0	0
	5. TPN	100	20	5	8	3	4	0	0
	Non-Infusions	400	107	21	57	0	0	0	29
	6. Acetaminophen 500	125	48	5	25	0	0	0	18
	7. Lorazepam Tab 1 MG	100	19	3	10	0	0	0	6
	8. Hydrocortisone Cream 2.5%	50	9	4	3	0	0	0	2
	9. Insulin Regular (Human) Inj 100 U/ML	100	21	6	15	0	0	0	0
	10. Xylo1 Liq.	25	10	3	4	0	0	0	3
BCPS Demo Unit	Total	450	102	24	48	3	20	20	7
	Infusions	200	36	11	10	3	12	0	0
	Multiple Vitamin Inj.	95	11	1	3	2	5	0	0
	Tapering	60	16	7	3	0	6	0	0
	TPN	45	9	3	4	1	1	0	0
	Non-Infusions	250	58	13	38	0	0	0	7
	Acetaminophen 500	100	28	3	20	0	0	0	5
	Hydrocortisone Cream 2.5%	50	9	4	3	0	0	0	2
	Insulin Regular (Human) Inj 100 U/ML	100	21	6	15	0	0	0	0
BCPS Demo Unit2	Total	300	71	17	29	3	0	0	22
	Infusions	150	21	5	6	2	8	0	0
	Bel's Morphine Sulfate Inj 2 MG/ML	25	11	4	4	1	2	0	0
	Continuous Titration	70	8	3	2	0	3	0	0
	TPN	55	11	2	4	2	3	0	0
	Non-Infusions	150	49	8	19	0	0	0	22

FIG. 79

	Near Miss				Med Error		
	Total Administrations	Total Wrong	# Wrong Drug	# Wrong Time	# Wrong Route	# Wrong Rate	# Wrong Dose
<b>1. Total</b>	<b>450</b>	<b>102</b>	<b>24</b>	<b>48</b>	<b>3</b>	<b>20</b>	<b>7</b>
<b>2. Infusions</b>	<b>200</b>	<b>36</b>	<b>11</b>	<b>10</b>	<b>3</b>	<b>12</b>	<b>0</b>
3. Multiple Vitamin Inj.	95	11	1	3	2	5	0
4. Tapering	60	16	7	3	0	6	0
5. TPN	45	9	3	4	1	1	0
<b>6. Non-Infusions</b>	<b>250</b>	<b>58</b>	<b>13</b>	<b>38</b>	<b>0</b>	<b>0</b>	<b>7</b>
7. Acetaminophen 500	100	28	3	20	0	0	5
8. Hydrocortisone Cream 2.5%	50	9	4	3	0	0	2
9. Insulin Regular (Human) Inj 100 U/ML	100	21	6	15	0	0	0

FIG. 81

Scan Errors		QA Test Hospital			
Time	System/Screen	Scan Error (Type/Error)	Expected	Actual	
06-Nov-2003 (Thursday) 15:37	Autros Hand Held /Handheld/eMar/EnterDrugQuantity.aspx	Item Scan ID Scanned barcode is invalid or inactive	102 Captopril Tab 50 MG CAPOTEN	106 Acetaminophen Soln 100 MG/ML ACETAMINOPHEN	
24-Nov-2003 (Monday) 13:31	Autros Hand Held /Handheld/Shift/ShiftSelectPatients.aspx	Patient Locator Scanned Barcode is invalid or inactive.		q	
28-Nov-2003 (Friday) 15:33	Autros Hand Held /Handheld/MixOnFloor/MixOnFloor/Cetite	Item Scan ID Scanned barcode is invalid or inactive.	106 Acetaminophen Soln 100 MG/ML ACETAMINOPHEN	409 Cefazolin Sodium for Inj 10 GM LF CEFAZOLIN SODIUM	
28-Nov-2003 (Friday) 15:36	Autros Hand Held /Handheld/eMar/ScanIVBagForAdmin.as	Item Scan ID Scanned barcode is invalid or inactive.	8800006940	8800006940	
15:39	Autros Hand Held /Handheld/eMar/ScanIVBagForAdmin.as	Item Scan ID Scanned barcode is invalid or inactive.	8800006941	8800006941	
15:41	Autros Hand Held /Handheld/StopInfusion/StoppedInfusion	Item Scan ID Scanned barcode is invalid or inactive.	One of IV Bag IDs	8800006941	
05-Jan-2004 (Monday) 11:19	Autros Hand Held /Handheld/Shift/ShiftSelectPatients.aspx	Patient Locator Scanned barcode is invalid or inactive.	qa998		
21-Jan-2004 (Wednesday) 15:17	Autros Hand Held /Handheld/eMar/ScanIVBagForAdmin.as	Item Scan ID Scanned barcode is invalid or inactive.	8800011408	8800011168	
03-Feb-2004 (Tuesday) 16:20	Autros Hand Held /Handheld/eMar/EnterDrugQuantity.aspx	Item Scan ID Scanned barcode is invalid or inactive.	11 Alprazolam Tab 2 MG(Bel)	102 Captopril Tab 50 MG CAPOTEN	
16:20	Autros Hand Held /Handheld/eMar/EnterDrugQuantity.aspx	Item Scan ID Scanned barcode is invalid or inactive.	11 Alprazolam Tab 2 MG(Bel)	11 Alprazolam Tab 2 MG(Bel)	
					Number of Errors: 10

FIG. 82

**Selection Criteria**

**OK**  **Cancel**

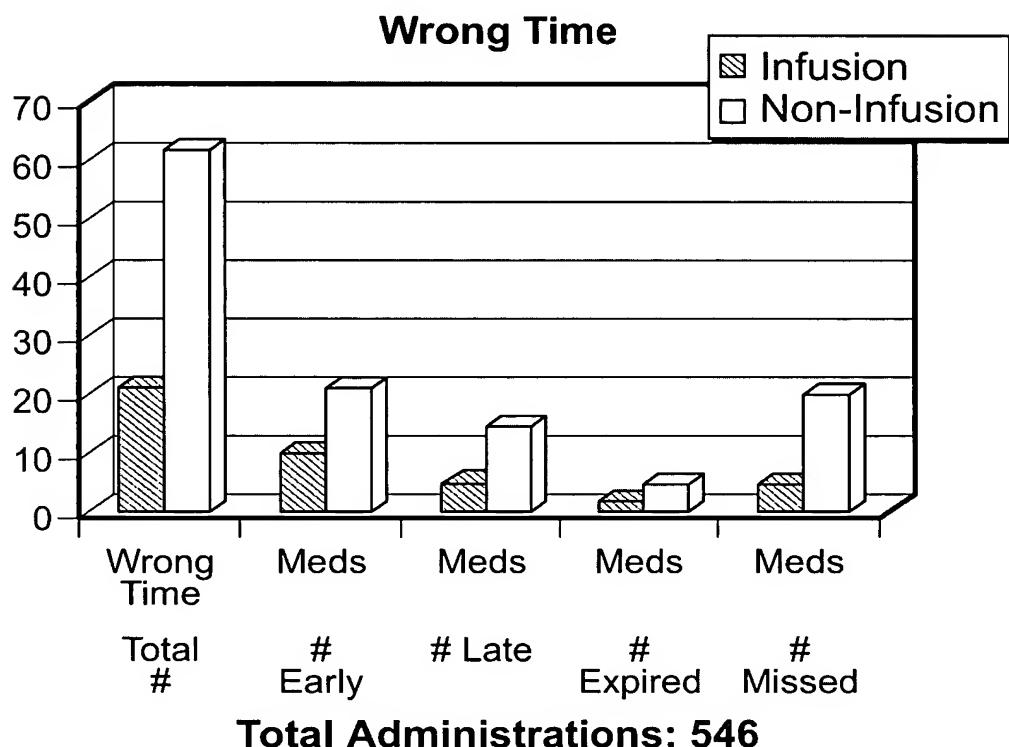
	Screen	Barcode Type
<b>Created Date</b>	<p>Start: 15 MAR 2004 10:58 <input type="button" value="▲"/> <input type="button" value="▼"/> <input type="button" value="ON"/> <input type="button" value="OFF"/></p> <p>End: 15 MAR 2004 10:58 <input type="button" value="▲"/> <input type="button" value="▼"/> <input type="button" value="ON"/> <input type="button" value="OFF"/></p>	Click listbox for values
		Click listbox for values

**User Group**

ARS Client (ARS Client) Charge Nurse (Hand Held) Database Administrator (Autros Maintenance) HL7Engine (HL7 Interface) Nurse - CPOE (CPOE) Nurse - Hand Held (Hand Held) Nurse - Inpatient (Inpatient) Nurse Lifeline (Lifeline) Pharmacist - CPOE (CPOE) Pharmacist - Hand Held (Hand Held) Pharmacist - Inpatient (Inpatient) Pharmacist - Lifeline (Lifeline) Physician - CPOE (CPOE)	<input type="button" value="▲"/> <input type="button" value="▼"/>	User
--	---	------

**FIG. 83**

**Near Miss Wrong Time Summary All Units**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**



**FIG. 84**

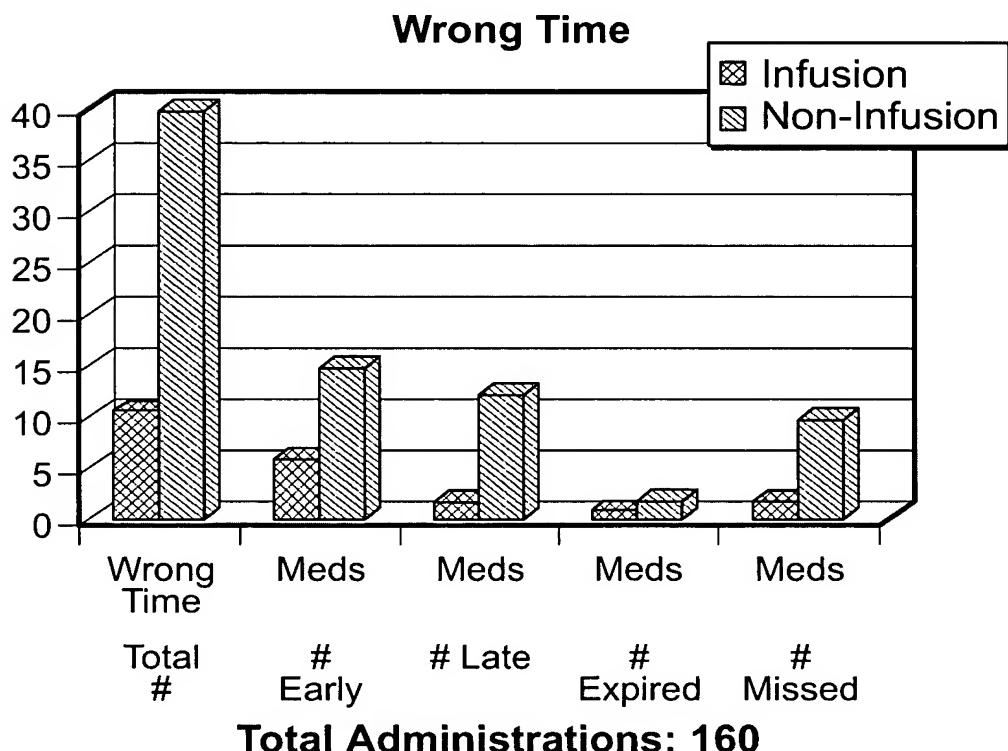
		Total # Wrong Time	# Early Meds	# Late Meds	# Expired Meds	# Missed Meds
All Units	<b>Total</b>	<b>84</b>	<b>32</b>	<b>20</b>	<b>7</b>	<b>25</b>
	Infusion	22	10	5	2	5
	Non-Infusion	62	22	15	5	20
BPCS Demo Unit	<b>Total</b>	<b>51</b>	<b>21</b>	<b>15</b>	<b>3</b>	<b>12</b>
	Infusion	11	6	2	1	2
	Non-Infusion	40	15	13	2	10
BPCS Demo Unit2	<b>Total</b>	<b>33</b>	<b>11</b>	<b>5</b>	<b>4</b>	<b>13</b>
	Infusion	11	4	3	1	3
	Non-Infusion	22	7	2	3	10

FIG. 85

		Total # Wrong Time	# Early Meds	# Late Meds	# Expired Meds	# Missed Meds
<b>Total</b>	<b>51</b>	<b>21</b>	<b>15</b>	<b>3</b>	<b>12</b>	
Infusion	11	6	2	1	2	
Non-Infusion	40	15	13	2	10	

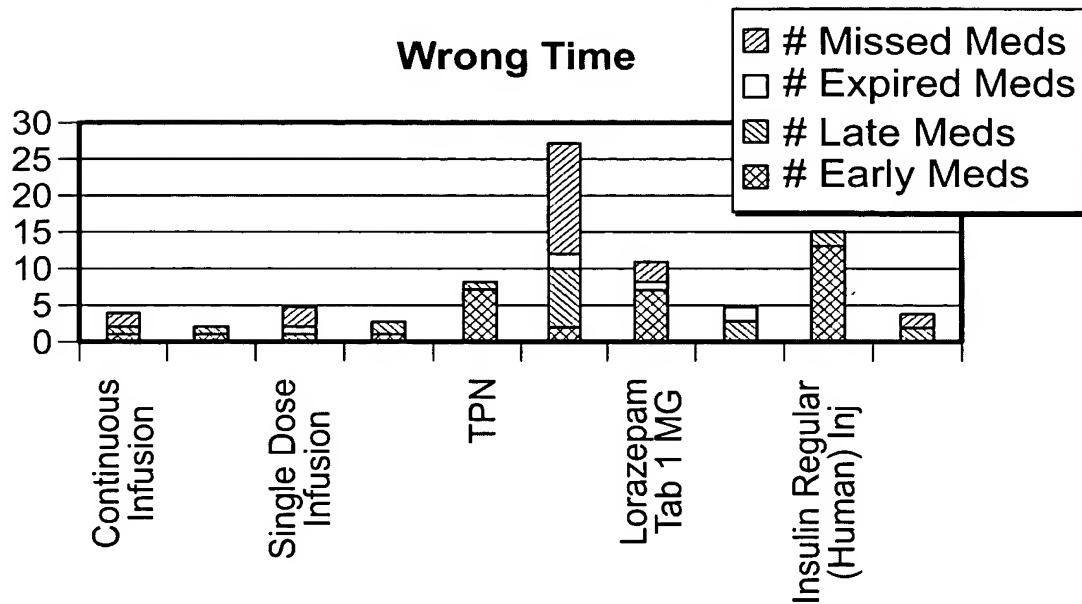
FIG. 87

**Near Miss Wrong Time Unit Summary BPCS Demo Unit**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**



**FIG. 86**

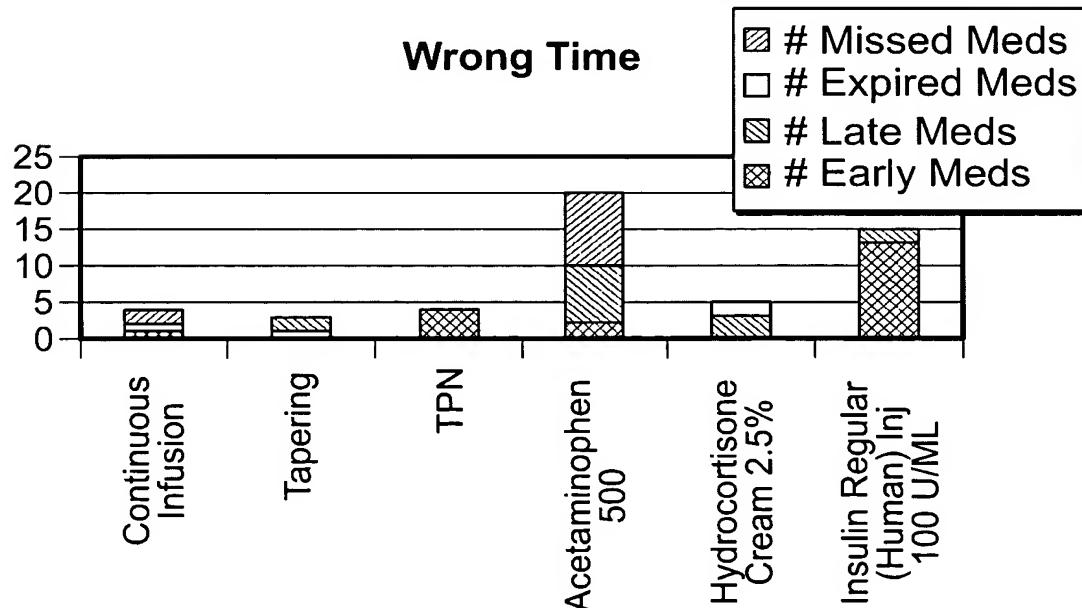
**Wrong Time by Med All Units**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**



**Total Administrations: 546**

**FIG. 88**

**Wrong Time by Med BPCS Demo Unit**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**



**FIG. 90**

		Total # Wrong Time	# Early Meds	# Late Meds	# Expired Meds	# Missed Meds
All Units	<b>Total</b>	84	32	20	7	25
	<b>Infusions</b>	22	10	5	2	5
	Continuous Infusion	4	1	0	1	2
	Continuous Titration	2	1	1	0	0
	Single Dose Infusion	5	0	1	1	3
	Tapering	3	1	2	0	0
	TPN	8	7	1	0	0
	<b>Non-Infusions</b>	62	22	15	5	20
	Acetaminophen 500	27	2	8	2	15
	Lorazepam Tab 1 MG	11	7	0	1	3
	Hydrocortisone Cream 2.5%	5	0	3	2	0
	Insulin Regular (Human) Inj 100 U/ML	15	13	2	0	0
	XyloL Liq	4	0	2	0	2
BPSCS Demo Unit	<b>Total</b>	51	21	15	3	12
	<b>Infusions</b>	11	6	2	1	2
	Continuous Infusion	4	1	0	1	2
	Tapering	3	1	2	0	0
	TPN	4	4	0	0	0
	<b>Non-Infusions</b>	40	15	13	2	10
	Acetaminophen 500	20	2	8	0	10
	Hydrocortisone Cream 2.5%	5	0	3	2	0
	Insulin Regular (Human) Inj 100 U/ML	15	13	2	0	0
BPSCS Demo Unit2	<b>Total</b>	33	11	5	4	13
	<b>Infusions</b>	11	4	3	1	3
	Continuous Titration	2	1	1	0	0
	Single Dose Infusion	5	0	1	1	3
	TPN	4	3	1	0	0
	<b>Non-Infusions</b>	22	7	2	3	10
	Acetaminophen 500	7	0	0	2	5
	Lorazepam Tab 1 MG	11	7	0	1	3
	XyloL Liq	4	0	2	0	2

FIG. 89

	Total # Wrong Time	# Early Meds	# Late Meds	# Expired Meds	# Missed Meds
<b>Total</b>	<b>51</b>	<b>21</b>	<b>15</b>	<b>3</b>	<b>12</b>
<b>Infusions</b>	<b>11</b>	<b>6</b>	<b>2</b>	<b>1</b>	<b>2</b>
Continuous Infusion	4	1	0	1	2
Tapering	3	1	2	0	0
TPN	4	4	0	0	0
<b>Non-Infusions</b>	<b>40</b>	<b>15</b>	<b>13</b>	<b>2</b>	<b>10</b>
Acetaminophen 500	20	2	8	0	10
Hydrocortisone Cream 2.5%	5	0	3	2	0
Insulin Regular (Human) Inj 100 U/ML	15	13	2	0	0

FIG. 91

**Wrong Time with Reason Code Report**

**BPCS Demo Unit**

Reason	Patient	RX	Order Admin Time	Admin Time	Nurse
<b>Early Medication Administrations</b>					
<b>Acetaminophen</b>					
As per MD	FTILOC1	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral1New	03-Mar-2004 10:59	03-Mar-2004 09:22:14	NURSEB
Other	ETLLOC1	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral1New	04-Mar-2004 14:15	04-Mar-2004 13:05	CHNURSE
			<b>Total Early</b>	<b>2</b>	
<b>Late Medication Administrations</b>					
<b>Acetaminophen</b>					
Patient unavailable at scheduled time	pid04	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral1New	03-Mar-2004 10:59	03-Mar-2004 11:22:14	NURSEA
Other	LZ001	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral1New	04-Mar-2004 14:15	04-Mar-2004 15:35	CHNURSE
<b>Multiple Vitamin Inj</b>					
Patient unavailable at scheduled time	FTILOC1	Continuous Infusion *Multiple Vitamin Inj** 20 ML WR13 Water for IV Injection 2 L = 2000 ML Route: Intravenous Flow Rate: 250ML/H Estimated Administration Period: 8 Hours	03-Mar-2004 10:59	03-Mar-2004 11:22:14	NURSEB
			<b>Total Late</b>	<b>3</b>	
<b>Expired Medication Administrations</b>					
<b>Acetaminophen</b>					
Still Required	newp2	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral1New	03-Mar-2004 10:59	03-Mar-2004 12:45:14	FNURSE
			<b>Total Expired</b>	<b>1</b>	

**FIG. 92**

<b>Missed Medication Administrations</b>					
<b>Acetaminophen</b>					
	newp2	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral New	03-Mar-2004 09:45		
	FTLOC1	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral New	03-Mar-2004 13:00		
	LZ001	1 CAP(s) Administered Acetaminophen Cap 500 MG 500 MG = 1 CAP Oral New	03-Mar-2004 17:45		
<b>Multiple Vitamin Inj</b>					
	ETLOC1	Continuous Infusion Simp Continuous Infusion *Multiple Vitamin Inj ** 100 ML Route: Intravenous Flow Rate: 50ML/H Line: Lne3 Site: tail Estimated Administration Period: 2 Hours	03-Mar-2004 11:00		
	ETLOC1	Continuous Infusion Simp Continuous Infusion *Multiple Vitamin Inj ** 100 ML Route: Intravenous Flow Rate: 50ML/H Line: Lne3 Site: tail Estimated Administration Period: 2 Hours	03-Mar-2004 13:00		
					<b>Total Missed 5</b>

**FIG. 93**

**Infusion Flow Rate History**

Run Period: from 8/14/2003 12:00:00AM to 3/2/2004 12:00:00AM

Unit	Patient Name	AUTROS.Pt1	Occurrence Date	Pump Mode	Pump Status	Rate (mL/H)
	Nurse	Tech, Cori	Continuous Infusion *Multiple Vitamin Inj** 10 ML			
	RX	197780	Route: Injection Flow Rate: 10ML/H Estimated Administration Period: 1 Hour			
751697			1/14/2004 1:10:58PM	Primary	Stopped	50.00
			1/14/2004 2:50:49PM	Primary	Stopped	0.00
			1/14/2004 2:51:04PM	Primary	Stopped	20.00
	RX	199997	Continuous Infusion *Multiple Vitamin Inj** 9999 ML			
			Route: Injection Flow Rate: 1200ML/H Estimated Administration Period: 5 Hours			
			1/23/2004 2:08:40PM	Primary	Standby mode	100.00
			1/23/2004 2:08:49PM	Primary	Stopped	100.00
			1/23/2004 2:08:58PM	Primary	Stopped	52.00
			1/23/2004 2:11:36PM	Primary	Standby mode	52.00
			1/23/2004 2:32:30PM	Primary	Stopped	52.00
			1/23/2004 2:32:51PM	Primary	Stopped	555.00
			1/23/2004 2:34:06PM	Primary	Standby mode	555.00

**FIG. 94**

### Colleague Infusion Rate and Mode Comparison Summary

All Units

Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM

		Rate				Mode	
		# Matches	# Resolved Mismatches	# Accepted Mismatches	# No Comparisons	# Mismatches	
Total	Total	114	62	20	20	32	28
Total Infusions for All Units	Total	114	62	20	20	32	28
	Primary	62	35	13	14	13	11
	Piggyback	52	27	7	6	19	17
BP/CS Demo Unit Total Infusions	Total	55	30	12	7	18	16
	Primary	35	20	7	5	10	4
	Piggyback	20	10	5	2	8	12
BP/CS Demo Unit2 Total Infusions	Total	59	32	8	13	14	12
	Primary	27	15	6	9	3	7
	Piggyback	32	17	2	4	11	5

FIG. 95

### Colleague Infusion Rate and Mode Comparison Unit Summary

BP/CS Demo Unit

Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM

		Rate				Mode	
		# Matches	# Resolved Mismatches	# Accepted Mismatches	# No Comparisons	# Mismatches	
Total	Total	55	30	12	7	18	16
Total Infusions	Total	55	30	12	7	18	16
	Primary	35	20	7	5	10	4
	Piggyback	20	10	5	2	8	12

FIG. 96

**Infusion Flow Rate Comparison**

Run Period: From 8/24/2003 12:00:00AM to 3/11/2004 12:00:00AM

		Total	1. No Match	2. Match	3. No Comparison
<b>Total</b>		35	5	2	28
<b>*AUTROS</b>	<b>Unit</b>	25	5	2	28
<b>DEMO UNIT*</b>	<b>Primary</b>	35	5	2	28

**FIG. 97**

**Colleague Infusion Rate Comparison Summary by Med**

All Units

Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM

		Total Infusions	# Matches	# Resolved Mismatches	Rate	# Accepted Mismatches	# No Comparisons
<b>All Units</b>	<b>Total</b>	114	62	20	20	20	32
	Bel's Morphine Sulfate Inj 2MG/ML	14	7	1	3	3	4
	Continuous Titration	15	4	3	2	2	9
	Multi Vitamin Inj	17	6	4	4	4	7
	Tapering	42	30	7	3	3	9
	TPN	26	15	5	8	8	3
<b>BPCS Demo Unit</b>	<b>Total</b>	55	30	12	7	7	18
	Bel's Morphine Sulfate Inj 2MG/ML	14	7	1	3	3	4
	Tapering	42	30	7	3	3	9
	TPN	18	10	2	4	4	2
<b>BPCS Demo Unit2</b>	<b>Total</b>	59	32	8	13	13	14
	Continuous Titration	15	4	3	2	2	9
	Multi Vitamin Inj	17	6	4	4	4	7
	TPN	20	5	3	4	4	1

**FIG. 98**

Colleague Infusion Rate Comparison Summary by Med

**BCPS Demo Unit**

Run Period: From 3/1/2004 12:00:00 AM to 3/4/2004 12:00:00 AM

	Total Infusions	# Matches	# Resolved Mismatches	Rate		# No Comparisons
				# Accepted	# Mismatches	
<b>Total</b>	<b>55</b>	<b>30</b>	<b>12</b>	<b>7</b>	<b>7</b>	<b>18</b>
Bel's Morphine Sulfate Inj 2MG/ML	14	7	1	3	3	4
Tapering	42	30	7	3	3	9
TPN	18	10	2	4	2	2

**FIG. 99**

### Infusion Flow Rate Comparison

Run Period: From 8/24/2003 12:00:00AM to 3/11/2004 12:00:00AM

		Total	1. No Match	2. Match	3. No Comparison
<b>Total</b>		<b>35</b>	<b>5</b>	<b>2</b>	<b>28</b>
<b>*AUTROS</b>	<b>Unit</b>	<b>35</b>	<b>5</b>	<b>2</b>	<b>28</b>
<b>DEMO</b>	<b>Primary</b>	<b>35</b>	<b>5</b>	<b>2</b>	<b>28</b>

		Total	1. No Match	2. Match	3. No Comparison
<b>Total</b>		<b>35</b>	<b>5</b>	<b>2</b>	<b>28</b>
<b>*AUTROS</b>	Unit Total:	35	5	2	28
<b>DEMO</b>	Continuous Infusion	Total	15	5	1
	*Multiple Vitamin Inj**	Primary	15	5	1
<b>UNIT*</b>	10 ML	Total	3	0	0
	Route: Injection Flow	Primary	3	0	0
	Continuous Infusion	Total	7	0	0
	*Multiple Vitamin Inj**	Primary	7	0	0
	10 ML	Total	5	0	1
	Route: Intramuscular	Primary	5	0	1
	Continuous Infusion	Total	5	0	0
	*Multiple Vitamin Inj**	Primary	5	0	0
	9999 ML	Total	2	0	0
	Route: Injection Flow	Primary	2	0	0
	Continuous Infusion	Total	5	0	1
	Morphine Sulfate Inj 15	Primary	5	0	1
	Continuous Infusion	Total	5	0	1
	Morphine Sulfate Inj 15	Primary	5	0	1
	MG/ML	Total	2	0	0
	45 MG = 9 ML	Primary	2	0	0
	Continuous Infusion	Total	3	0	0
	Morphine Sulfate Inj 15	Primary	3	0	0
	MG/ML *short	Total	3	0	0
	10 G = 0.667 ML	Primary	3	0	0

**FIG. 100**

Infusion Flow Rate Comparison  
Run Period: From 8/14/2003 12:00:00AM to 3/1/2004 12:00:00AM

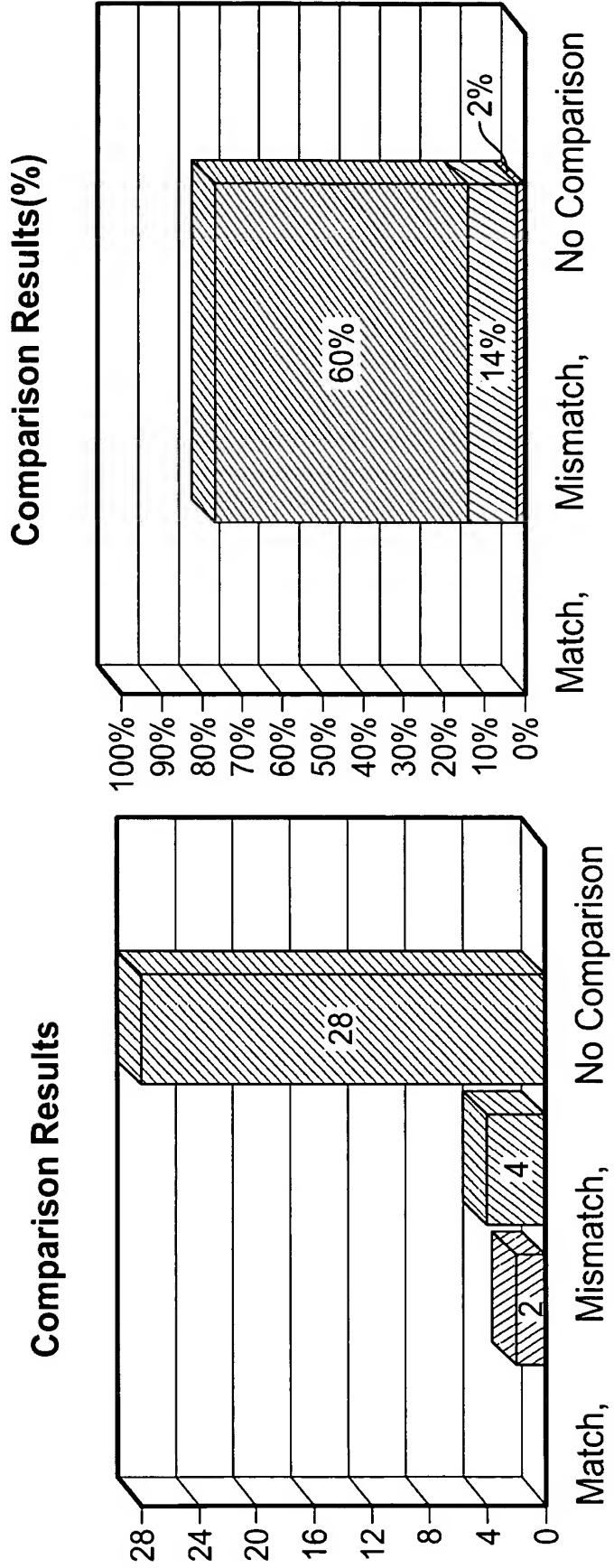


FIG. 101

REPLACEMENT SHEET  
 Attorney Docket No. EIS-6139 (1417G P 1047)  
 Application No.: 10/822,559  
 Confirmation No.: 2934  
 Sheet 25 of 47 Sheets

Unit	Pump Mode			Rx Rate	Pump Rate	Comparison Result	Date/Time
<b>*AUTROS DEMO UNIT*</b>							
Nurse:	Nurse, Mary	Patient:	Palm, Father	Rx 206180	Continuous Infusion *Multiple Vitamin Inj:** 10 ML		
					Route: Intramuscular Flow Rate: 10 ML/H Estimated Administration Period: 1 Hour		
781396	Primary	RX	206180	Continuous Infusion *Multiple Vitamin Inj:** 10 ML	555	No Comparison	2/10/2004 10:57:23AM
781396	Primary	RX	206180	Continuous Infusion *Multiple Vitamin Inj:** 10 ML	555	No Comparison	2/10/2004 11:41:02AM
781397	Primary	RX	205182	Continuous Infusion Morphine Sulfate Inj 15 MG/ML *short 10 GM = 0.667 ML To be Administered Over 10 Minutes Route: Injection Estimated Flow Rate: 4 ML/H	555	No Comparison	2/10/2004 11:58:06AM
776327	Primary				555	No Comparison	2/6/2004 10:55:19AM
776327	Primary				555	No Comparison	2/6/2004 10:55:22AM
Nurse: Tech, Cori Patient: AUTROS, Pt1							

**FIG. 102**

Colleague Guardian Dose/Rate Range Out of Limit Summary All Units  
 Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM

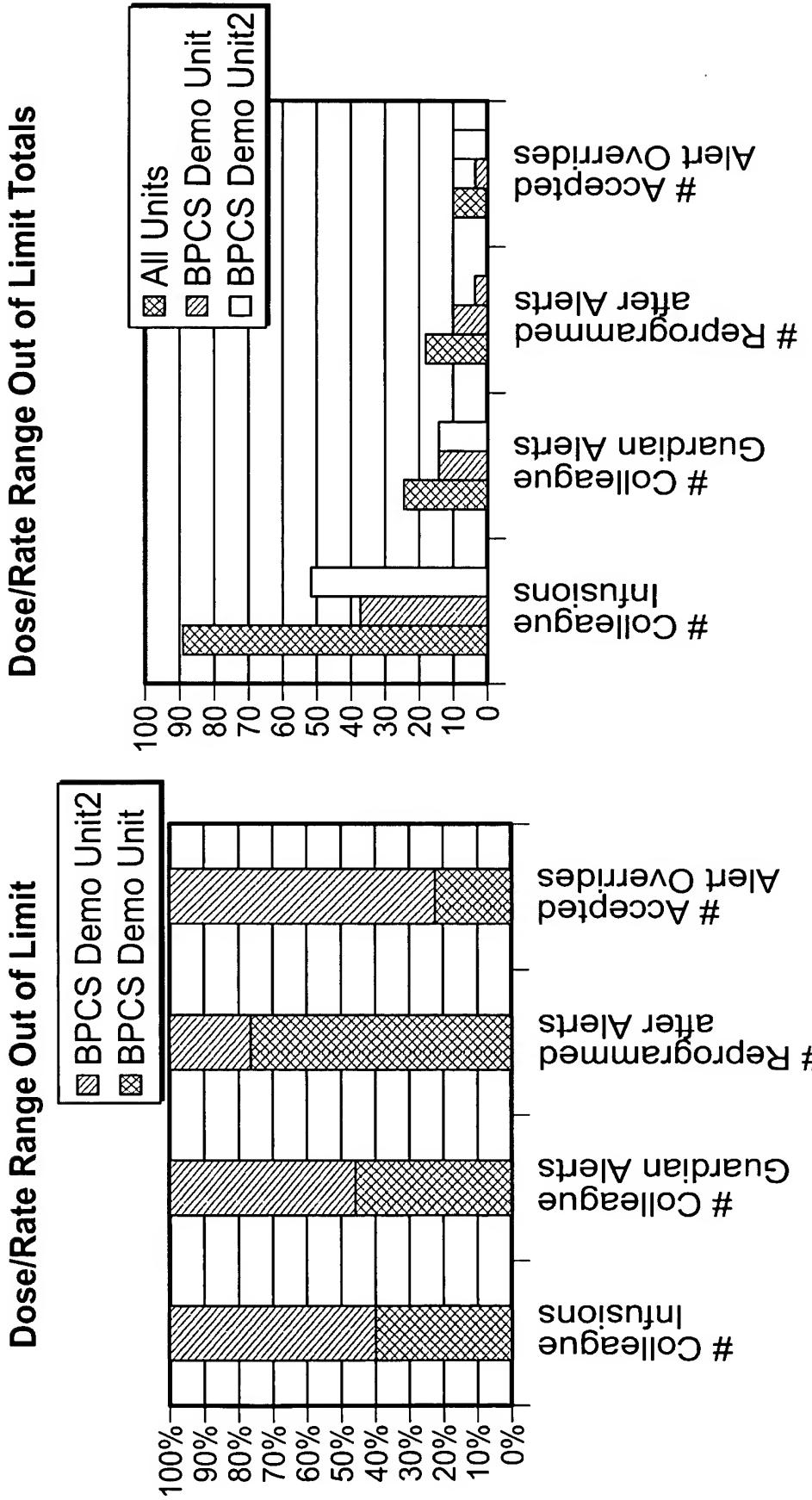


FIG. 103

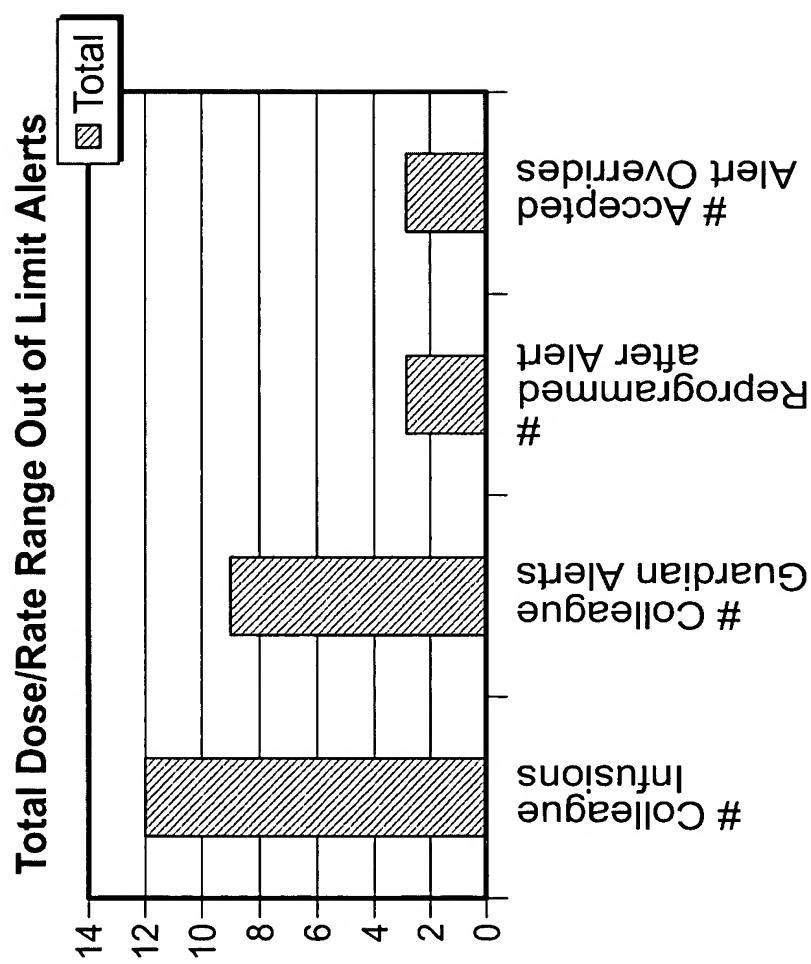
# Colleague Infusions	# Colleague Guardian Alerts	# Reprogrammed after Alerts	# Accepted Alert Overrides
All Units	89	25	15
BPCS Demo Unit	35	12	9
BPCS Demo Unit2	54	13	3

FIG. 104

# Colleague Infusions	# Colleague Guardian Alerts	# Reprogrammed after Alert	# Accepted Alert Overrides
Total	12	9	3

FIG. 106

**Colleague Guardian Dose/Rate Range Out of Limit Unit Summary BPCS Demo Unit  
Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM**



**FIG. 105**

Colleague Guardian Dose/Rate Range Out of Limit Unit Summary BPCS Demo Unit  
Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM

Dose/Rate Range Out of Limits by Med  
for BPCS Demo Unit

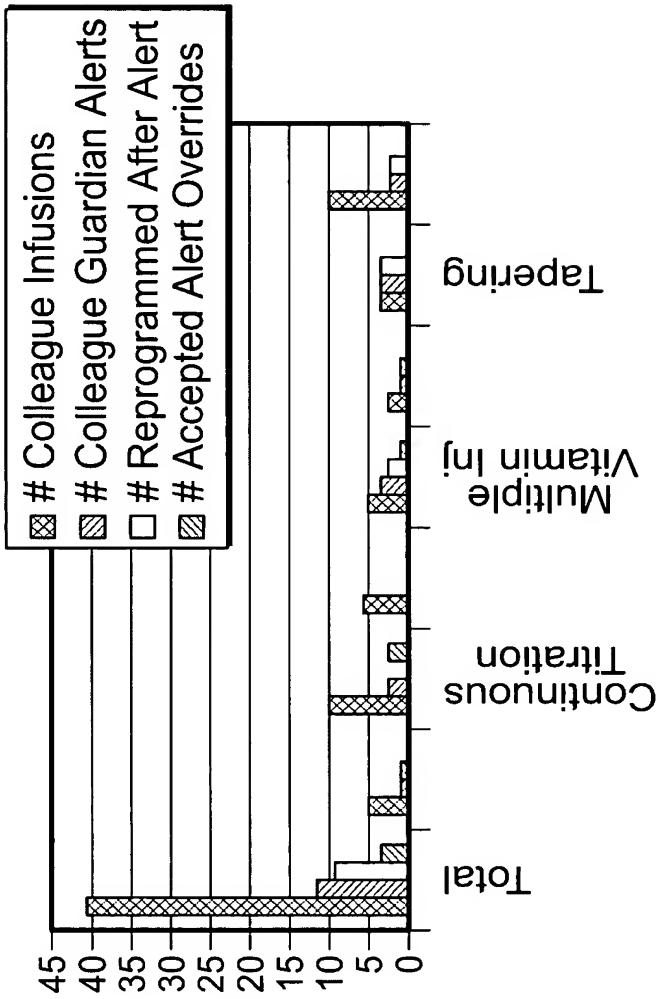


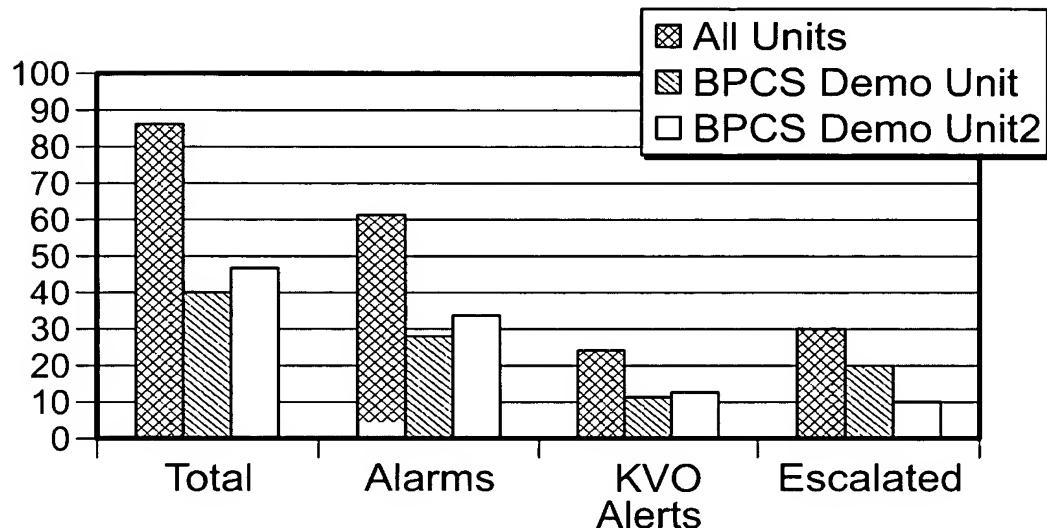
FIG. 107

Pharmacy Label	Colleague Guardian Label	# Colleague Infusions	# Colleague Guardian Alerts	# Reprogrammed after Alert	# Accepted Alert Overrides
<b>Total</b>		<b>41</b>	<b>12</b>	<b>9</b>	<b>3</b>
Bel's Morphine Sulfate Inj 2 MG/ML	MORPHINE	5	1	1	0
Continuous Titration	DOBUTAMN	10	2	0	2
Dopamine HCl Inj 40MG/ML		6	0	0	0
Multiple Vitamin Inj	ANTIBIOT	5	3	2	1
Tapering	DOPAMINE	2	1	1	0
Tapering	FLUORUOR	3	3	3	0
TPN	TPN	10	2	2	0

FIG. 108

**Colleague Alarms/Alerts Summary All Units**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**

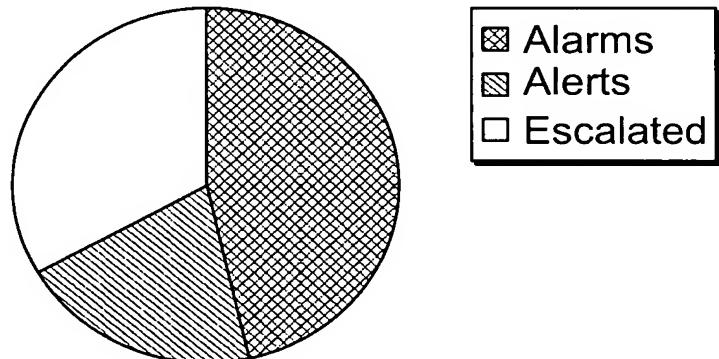
**Total Alarms & KVO Alerts**



**FIG. 109**

**Colleague Alarms/Alerts Summary BPCS Demo Unit**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**

**Total Alarms/Alerts  
for BPCS Demo Unit**



**FIG. 111**

	Total Infusions	Alarms/Alerts Total	# Alarms	# KVO Alerts	# Escalated	*Avg Time to Resolve (mm:ss)
All Units	50	87	62	25	30	2:23
BPCS Demo Unit	30	40	28	12	20	2:15
BPCS Demo Unit2	20	47	34	13	10	2:30

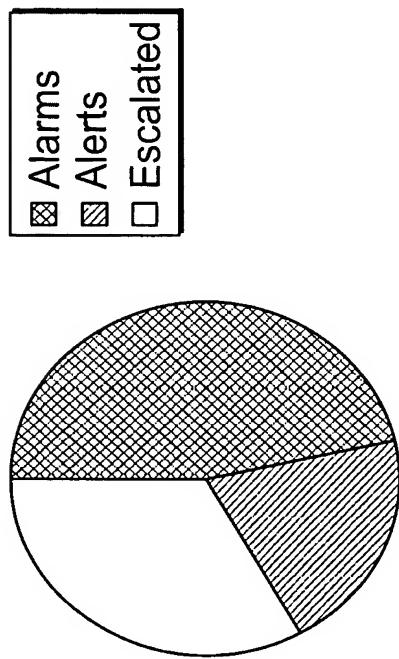
FIG. 110

Total	# Alarms	# KVO Alerts	# Escalated	*Avg Time to Resolve (mm:ss)
40	28	12	20	2:15

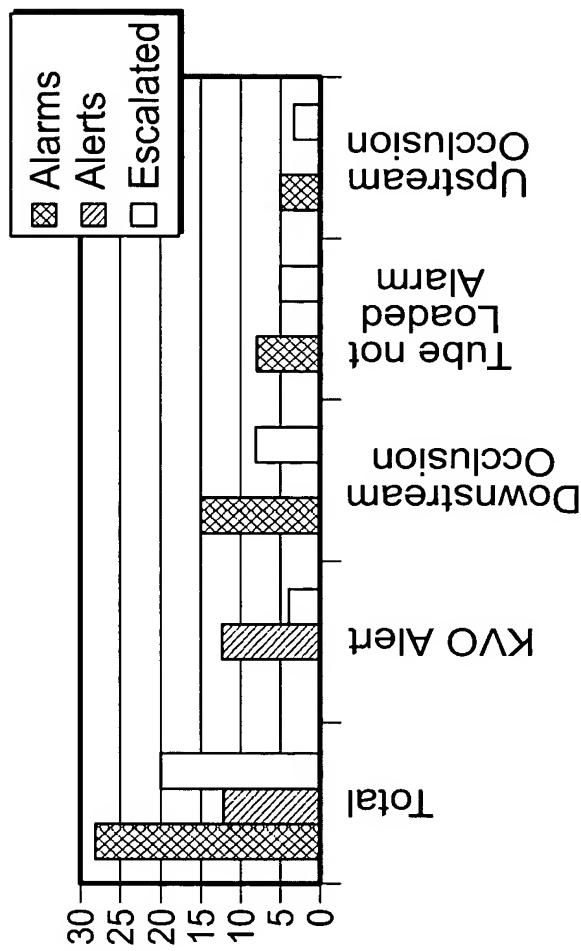
FIG. 112

**Colleague Alarms/Alerts Summary by Alarm Condition BPCS Demo Unit**  
Run Period: From 3/1/2004 12:00:00AM to 3/4/2004 12:00:00AM

**Total Alarms/Alerts**  
for BPCS Demo Unit



**Total Alarms/Alerts Summary by Condition**  
for BPCS Demo Unit



**FIG. 113A**

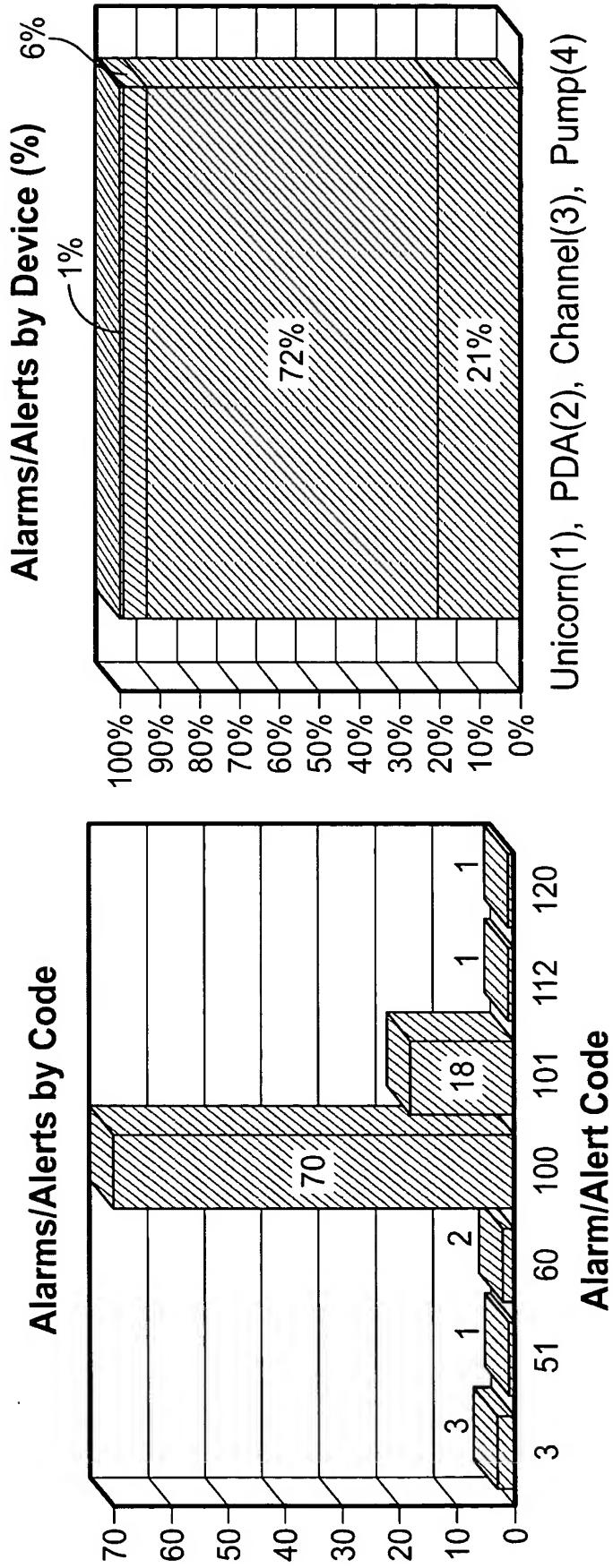
**FIG. 113B**

Total Infusions: 30

Alarm Condition	Total Alarms/Alerts	# Alarms	# KVO Alerts	# Escalated	Avg Time to Resolve (mm:ss)
<b>Total</b>	<b>40</b>	<b>28</b>	<b>12</b>	<b>20</b>	<b>2:15</b>
KVO Alert	12	0	12	4	0:45
Downstream Occlusion	15	15	0	8	3:45
Tube not Loaded Alarm	8	8	0	5	1:10
Upstream Occlusion	5	5	0	3	1:35

FIG. 114

**History of Pump Alarms KVO Alerts, and Resolutions (by Alarm/KVO Alert Code)**  
**Run Period: From 8/14/2003 12:00:00AM to 3/1/2004 12:00:00AM**



**FIG. 115A**

**FIG. 115B**

Code	Alarm Description
3	Channel Stopped Alert
51	Tube Not Loaded Alarm
60	Downstream Occlusion Alarm
100	PDA Loss of Communication
101	Unicorn Loss of Communication
112	Unicorn is initiating power-down
120	Pump Communication Lost Alarm

**FIG. 116**

**REPLACEMENT SHEET**  
Attorney Docket No. EIS-6139 (1417G P 1047)  
Application No.: 10/822,559  
Confirmation No.: 2934  
Sheet 37 of 47 Sheets

Alarm, KVO Alert	3	Channel Stopped Alert
Unit:	*AUTROS DEMO UNIT*	
Patient Name	AUTROS, Pt1	
Nurse:	Mary	
RX	Intermittent Infusion Morphine Sulfate Inj 15 MG/ML 15 MG = 1 ML Route: Injection Flow Rate: 1.5 ML/H Estimated Administration Period: 40 Minutes Every 1 Hour	
1	A000000085	Channel Primary 9/26/2003
RX	Continuous Infusion *Multiple Vitamin Inj** 9999 ML Route: Injection Flow Rate: 1200 ML/H Estimated Administration Period: 5 Hours	
1	A000000047	Channel Primary 1/23/2004 2:32:33PM
1	A000000047	Channel Primary 1/23/2004 2:33:48PM
<b>Total for Alarm, KVO Alert#</b>	<b>3</b>	<b>Channel Stopped Alert</b>
Alarm, KVO Alert	51	Tube Not Loaded Alarm
Unit:	*AUTROS DEMO UNIT*	
Patient Name	AUTROS, Pt1	
Nurse:	Tech, Cori	
		3

FIG. 117

History of Alarms/Alerts and Resolutions (by Alarm/Alert)

---

Run Period: from 8/14/2003 12:00:00AM to 3/1/2004 12:00:00AM

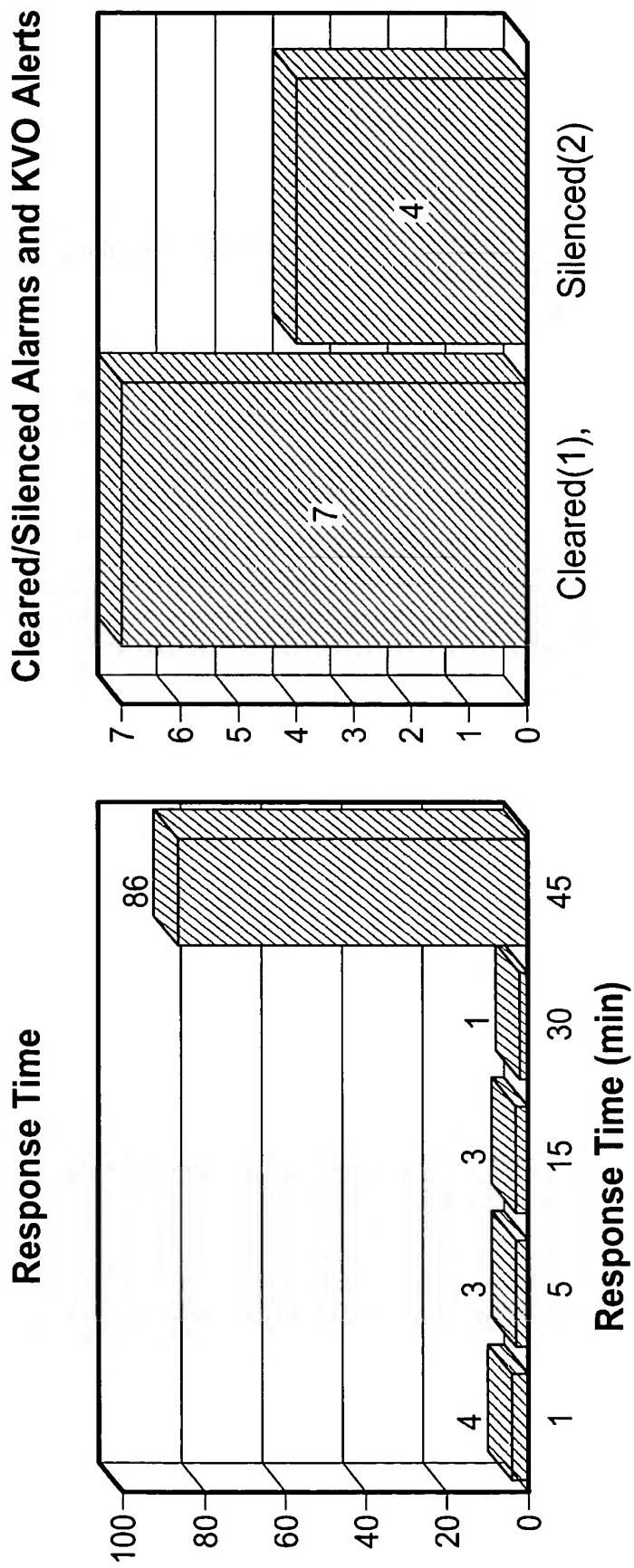
Esc. Level	Source	Device	Mode	Occurrence Time	Cleared Time	Silenced Time
		RX	Continuous Infusion *Multiple Vitamin Inj**			
			9999 ML			
			Route: Injection	Flow Rate: 1200 ML/H		
			Estimated Administration Period: 5 Hours			
0	A000000047	Channel	Primary	1/23/2004 2:32:51PM	1/23/2004 2:32:52 PM	
<b>Total for Alarm, KVO Alert# 51</b>						
<b>1</b>						

FIG. 118

Code	Alarm Description
3	Channel Stopped Alert
51	Tube Not Loaded Alarm
60	Downstream Occlusion Alarm
100	PDA Loss of Communication
101	Unicorn Loss of Communication
112	Unicorn is initiating power-down
120	Pump Communication Lost Alarm

FIG. 120

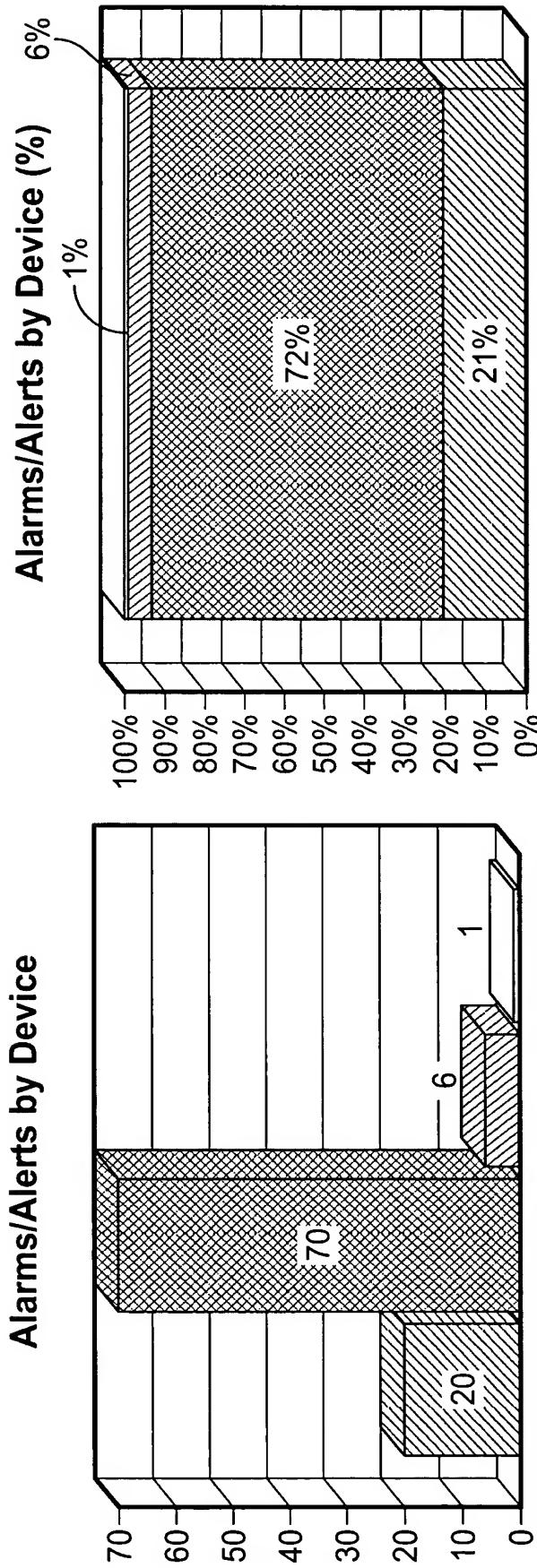
**History of Pump Alarms KVO Alarms, and Resolutions (by Cleared/Silence Time)**  
Run Period: From 8/14/2003 12:00:00AM to 3/1/2004 12:00:00AM



Esc. Level	Source	Device	Mode	Occurrence	Cleared	Silenced
<b>Clearance/Silenced time up to:</b>	1(min.)					
<b>Unit:</b>	<b>*AUTROS DEMO UNIT*</b>					
Patient Name	AUTROS, Pt1					
Nurse:	Mary					
		RX	Intermittent Infusion			
			Morphine Sulfate Inj 15 MG/ML			
			15 MG = 1 ML			
			Route: Injection	Flow Rate: 1.5 ML/H		
			Estimated Administration Period:	40 Minutes		
			Every 1 Hour			
0	A00000085	Channel	Primary	9/26/2003 1:09:44PM		
1	A00000085	Channel	Primary	9/26/2003 12:17:51PM	9/26/2003 12:17:55PM	
		RX	Continuous Infusion			
			*Multiple Vitamin Inj**			
			9999 ML			
			Route: Injection	Flow Rate: 1200 ML/H		
			Estimated Administration Period:	5 Hours		
0	A00000047	Channel	Primary	1/23/2004 2:32:51PM	1/23/2004 2:32:52PM	
1	A00000047	Channel	Primary	1/23/2004 2:32:33PM		1/23/2004 2:32:50PM
<b>Total Clearance/Silenced time up to:</b>	<b>1(min.)</b>					<b>4</b>
<b>Clearance/Silenced time up to:</b>	<b>5 (min.)</b>					
Unit:						
Patient Name						
Nurse:						
		RX				
1	UnicomPE102	Unicorn		2/12/2004 12:46:04PM	2/12/2004 12:48:04PM	
1	UnicomPE103	Unicorn		2/12/2004 12:46:12PM	2/12/2004 12:50:12PM	
1	UnicomPE216	Unicorn		2/12/2004 12:46:21PM	2/12/2004 12:50:21PM	
<b>Total Clearance/Silenced time up to:</b>	<b>5(min.)</b>					<b>3</b>

**FIG. 121**

**History of Pump Alarms KVO Alerts, and Resolutions (by Unit)**  
**Run Period: From 8/14/2003 12:00:00AM to 3/1/2004 12:00:00AM**



Unicorn(1), PDA(2), Channel(3), Pump(4)

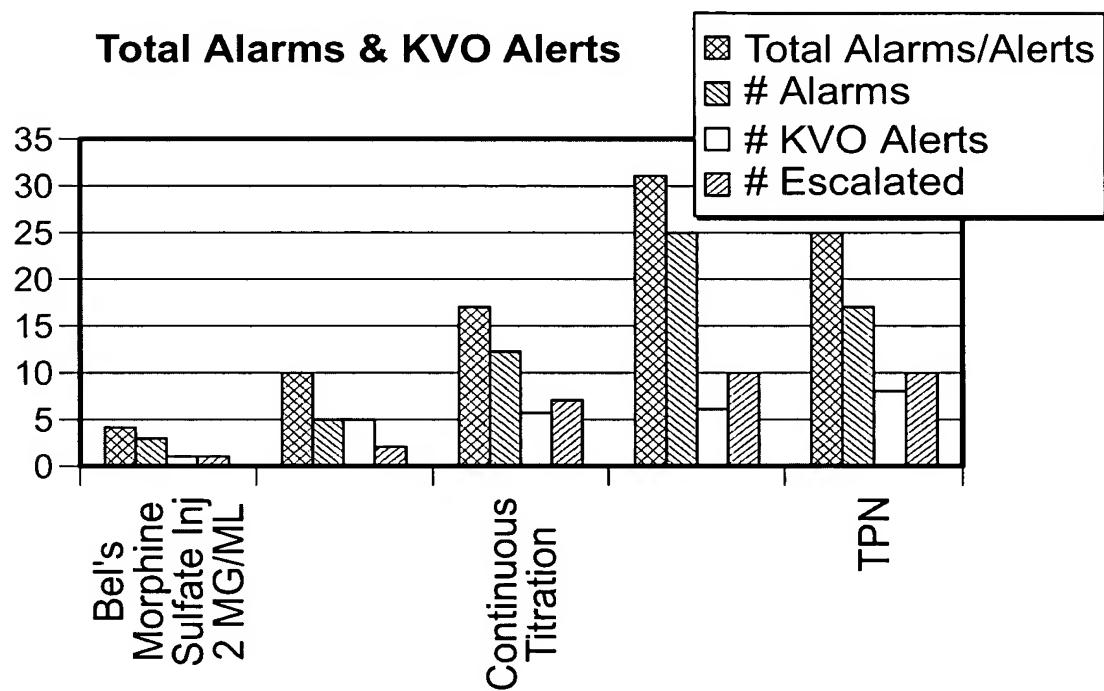
**FIG. 122A**

**FIG. 122B**

Esc. Level	Source	Device	Mode	Occurrence Time	Cleared Time	Silenced Time
Unit: *AUTROS DEMO UNIT*						
Patient Name AUTROS, Pt1						
Nurse: Nurse, Mary						
RX Intermittent Infusion Morphine Sulfate Inj 15 MG/ML 15 MG = 1 ML Route: Injection Flow Rate: 1.5 ML/H Estimated Administration Period: 40 Minutes Every 1 Hour						
Alarm/Alert # 60 Downstream Occlusion Alarm						
0	A00000085	Channel	Primary	9/26/2003 1:09:44PM		9/26/2003 1:09:50PM
Alarm/Alert # 3 Channel Stopped Alert						
1	A00000085	Channel	Primary	9/26/2003		
Alarm/Alert # 60 Downstream Occlusion Alarm						
1	A00000085	Channel	Primary	9/26/2003 12:17:51PM	9/26/2003 12:17:55PM	
RX Continuous Infusion *Multiple Vitamin Inj** 9999 ML Route: Injection Flow Rate: 1200 ML/H Estimated Administration Period: 5 Hours						
Alarm/Alert # 51 Tube Not Loaded Alarm						
0	A00000047	Channel	Primary	1/23/2004 2:32:51PM	1/23/2004 2:32:52PM	
Alarm/Alert # 3 Channel Stopped Alert						
1	A00000047	Channel	Primary	1/23/2004 2:33:48PM		
Alarm/Alert # 3 Channel Stopped Alert						
1	A00000047	Channel	Primary	1/23/2004 2:32:33PM		1/23/2004 2:32:50PM
Unit:						
Patient Name						
Nurse:						
RX						
Alarm/Alert # 101 Unicorn Loss of Communication						
1	UNICORN1	Unicorn		8/28/2003		
Alarm/Alert # 101 Unicorn Loss of Communication						
1	UN	Unicorn		8/29/2003		
Alarm/Alert # 101 Unicorn Loss of Communication						
1	Unicorn1	Unicorn		2/12/2004 12:45:36PM		2/12/2004 12:50:36 PM
Alarm/Alert # 101 Unicorn Loss of Communication						
1	Unicorn1	Unicorn		2/12/2004 12:45:36PM		

FIG. 123

**Colleague Alarms/Alerts Summary by Med All Units**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**

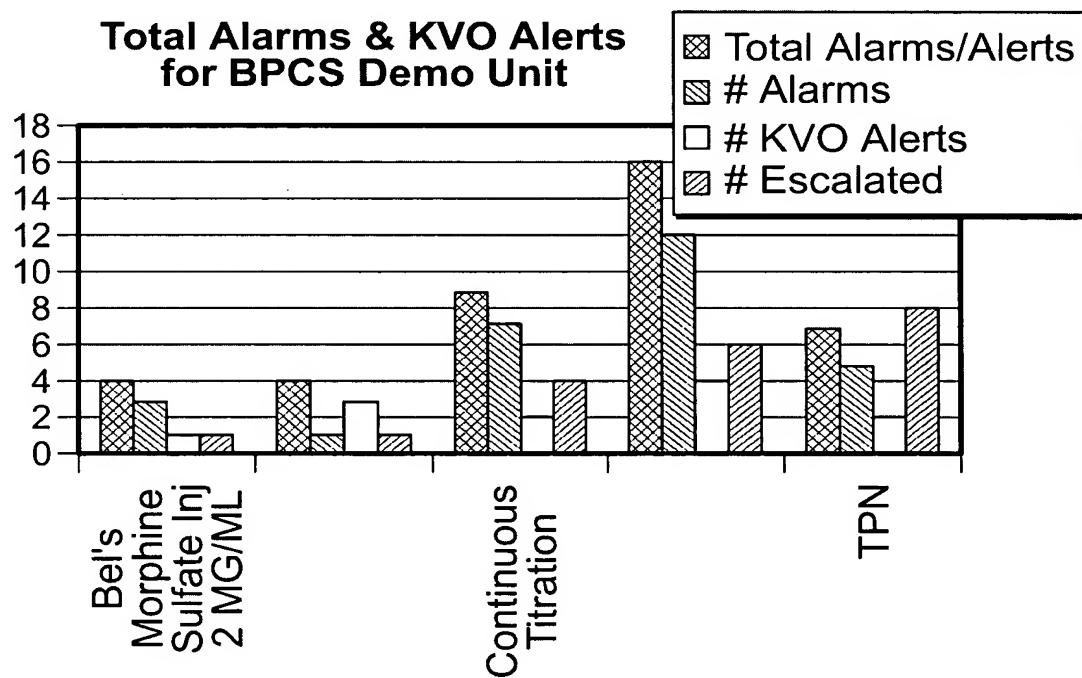


**FIG. 124**

All Units	Total Infusions	Total Alarms/Alerts	# Alarms	# KVO Alerts	# Escalated	Avg Time to Resolve (mm:ss)
<b>Total</b>	<b>50</b>	<b>87</b>	<b>62</b>	<b>25</b>	<b>30</b>	<b>3:22</b>
Bel's Morphine Sulfate Inj 2 MG/ML	3	4	3	1	1	1:15
Multiple Vitamin Inj	10	10	5	5	2	2:30
Continuous Titration	12	17	12	5	7	1:50
Tapering	10	31	25	6	10	2:45
TPN	15	25	17	8	10	2:13
<b>Total</b>	<b>30</b>	<b>40</b>	<b>28</b>	<b>12</b>	<b>20</b>	<b>4:15</b>
Bel's Morphine Sulfate Inj 2 MG/ML	3	4	3	1	1	1:15
Multiple Vitamin Inj	7	4	1	3	1	1:20
Continuous Titration	10	9	7	2	4	2:45
Tapering	5	16	12	4	6	1:30
TPN	5	7	5	2	8	1:10
<b>Total</b>	<b>20</b>	<b>47</b>	<b>34</b>	<b>13</b>	<b>10</b>	<b>2:30</b>
Multiple Vitamin Inj	3	6	4	2	1	3:10
Continuous Titration	2	8	5	3	3	1:12
Tapering	5	15	13	2	4	2:15
TPN	10	18	12	6	2	1:30

FIG. 125

**Colleague Alarms/Alerts Summary by Med BPCS Demo Unit**  
**Run Period: From 3/1/2004 12:00:00AM to**  
**3/4/2004 12:00:00AM**



**FIG. 126**

	Total Alarms/ Alerts	# Alarms	# KVO Alerts	# Escalated	Avg Time to Resolve (mm:ss)
<b>Total</b>	<b>30</b>	<b>40</b>	<b>28</b>	<b>12</b>	<b>20</b>
Bel's Morphine Sulfate Inj2 MG/ML	3	4	3	1	1:15
Multiple Vitamin Inj	7	4	1	3	1:20
Continuous Titration	10	9	7	2	4
Tapering	5	16	12	4	6
TPN	5	7	5	2	8

FIG. 127

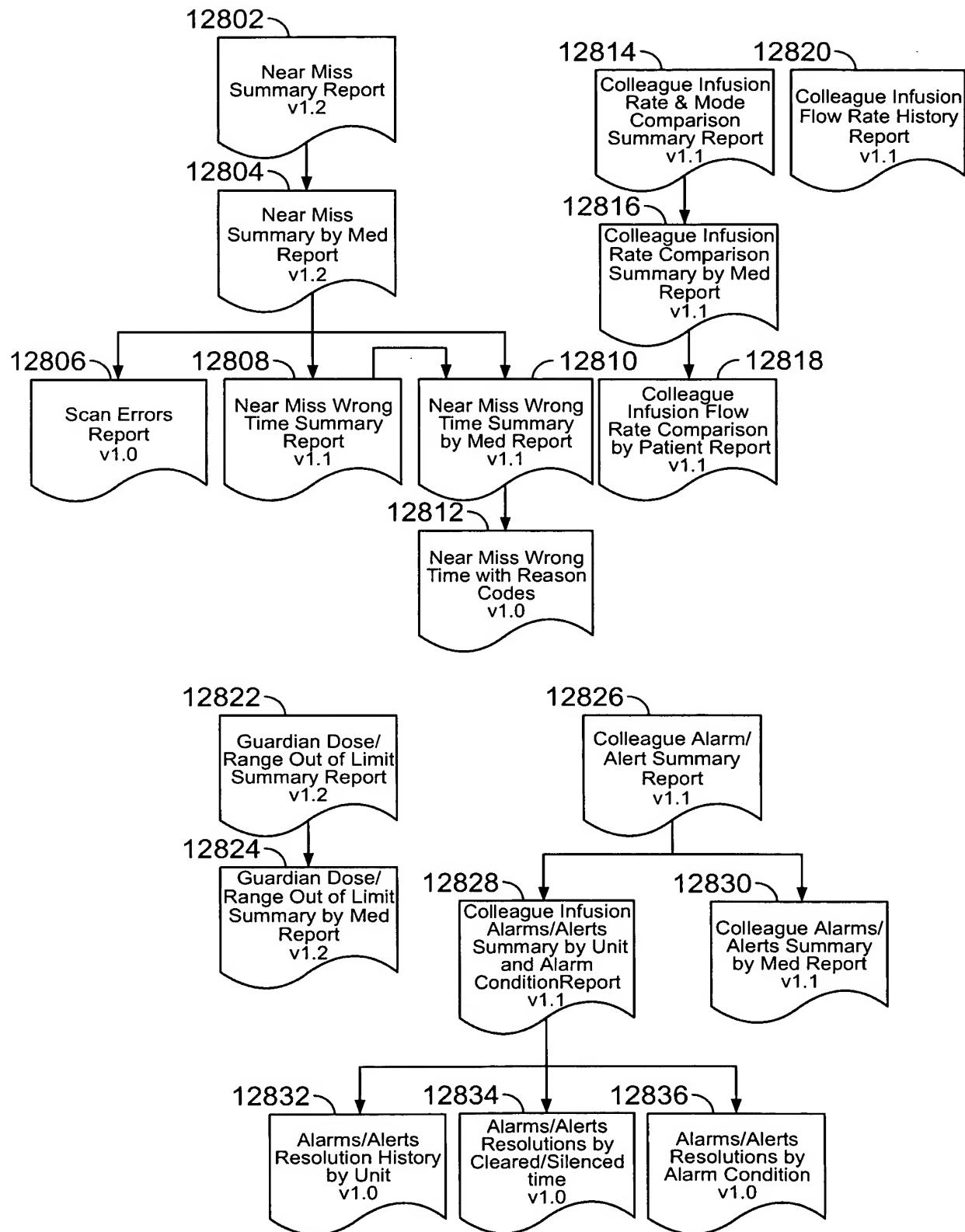


FIG. 128